Remarks

The specification has been amended to supply the serial numbers of copending patent applications that were not available at the time the present application was filed, and also to identify prior art Patent No. 6,056,889. This patent was inadvertently omitted from an incomplete sentence in the original specification, and was identified in the Information Disclosure Statement previously submitted by applicants. Its addition to the specification at this time simply presents prior art, and therefore does not represent new matter.

All of the claims were rejected over Konotchick (US Patent No. 5,347,186): claims 24-29 and 34 under 35 USC 102(b), claims 1-23, 30-33 and 35-49 under 35 USC 103(a) over Konotchick in view of Raj (US Patent No. 5,452,520), claims 50 and 55-60 under 35 USC 103(a) over Konotchick in view of Roth et al. (US Patent No. 4,965,864), and claims 51-54 under 35 USC 103(a) over Knotochick in view of Roth et al., and further in view of Raj.

The Konotchick patent does indeed disclose, in FIG. 4, a support structure with a plurality of magnets oriented in polar opposition to individually move relative to the support structure along a common axis. However, in Konotchick the two magnets are separated by a coil 47 that is inserted into the middle of the support structure, and cannot approach each other any closer than the opposite ends of the coil. In effect, there are two separate support structures, one for each magnet, with the magnets free to move within their individual support structures but blocked from entering, or even coming any closer than the width of coil 47, to the support structure for the other magnet.

By contrast, as illustrated in FIGS. 1, 2, 4 and 5 of the present application, applicants' support structure does not impose any obstruction to magnet movement between the magnets. The only opposition to magnet movement along their common axis is the mutual magnetic repulsion when the magnets come into proximity to each other (see specification page 5, line 30 - page 6, line 2).

As stated at specification page 9, lines 12-14, the use of an ultra low friction lubricant "allows the magnets to freely slide with respect to the enclosure". This is important in establishing multiple modes of oscillation (discussed at page 10, lines 22-29 and page 15, line 28 - page 17, line 24). The multiple modes result in a much greater capability to produce a useful output and a response to enclosure movements that are not periodic at a single magnet's natural frequency, or are out-of-phase with the initial magnet movement. In addition to preventing applicants' free movement of the magnets, coil 47 in Konotchick absorbs some of the magnetic field and thus reduces the magnetic coupling between magnets, even beyond the reduction caused by the physical separation which it imposes between the magnets.

Konotchick limits the travel of each magnet to a path length that is less than half of the total distance between the opposite ends of the overall support structure. By contrast, each magnet in applicants' system is free to oscillate over a considerably greater distance for the same overall support structure size. This further increases the electrical generation capacity of applicants' device.

To emphasize this distinction over Konotchick, independent claims 1, 11, 24, 36, 45 and 50 have been amended

to characterize the support structure as "providing an unobstructed magnet movement path between said magnets".

The remaining independent claims, 14 and 22, require that the magnets be oriented in polar opposition "to oscillate relative to said support structure in multiple modes". This would not be the primary oscillation for Konotchick, which essentially provides two separate single-magnet generators. To emphasize the distinction, these claims have been amended to recite the multiple oscillation modes "resulting from mutual interaction between said magnets". Any such interaction in Konotchick would be considerably reduced because of the physical spacing between magnets imposed by coil 47, and further because of the coil's absorption of magnetic fields.

The presence of coil 47 in Konotchick has a definite purpose: to generate a voltage (see column 5, lines 11-12). In fact, coil 47 is illustrated as having 20,000 turns, as opposed to a total of 22,000 turns for the other six coils 44-46 and 48-50 combined (column 5, lines 24-29). Accordingly, there is no suggestion that Konotchick be reconstructed in a different way by eliminating coil 47, bringing the remaining portions together, and allowing the magnets to move freely with the support providing no obstruction to magnet movement between magnets.

Raj was cited as disclosing ferrofluid bearings between magnets and a support structure to provide low friction interfaces, while Roth et al. was cited as disclosing a support structure having a ring-shaped axis. Neither of these patents disclose the basic structure of the present claims, either individually or when combined with Konotchick. Raj et al. is a single magnet inclinometer, while Roth et al. discloses a linear motor, rather than an electrical generator, in which a series of

Respectfully submitted,

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